PATENT
017191.0042

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re U.S. Patent Application		)	Customer No.: 47670
Applicant:	Michael J. Pugia	)	
Serial No.:	10/608,400	)	*I hereby certify that this correspondence is being deposited with the United Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P. O. Box 1450, Alexandria, VA, 22313-1450, on* 4/12/07
Filed:	June 27, 2003	)	
Examiner:	Brian J. Sines	)	Heide Ebenhoch
Group Art:	1743	)	*Signature*
Confirmation No. 7945		)	

For: **Method For Uniform Application of Fluid Into A Reactive Reagent Area**

DECLARATION UNDER 37 C.F.R. 1.132

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

1. I am one of the named inventors in the subject application. I received a Ph.D degree in Chemistry from Texas Tech University in 1986. I am currently employed by Siemens Medical Solutions Diagnostics with the title of Director, Urinalysis Research & Development. On January 1, 2007, Siemens Medical Solutions Diagnostics acquired certain businesses of Bayer Healthcare, LLC where I had been employed since 1986, and to which the subject application was assigned.

2. I wish to present information relating to the performance of fluidic devices disclosed in the subject application. Specifically, photographs that demonstrate the interaction between an array of microstructure posts and substrates which carry reagents in practical applications of such microfluidic devices.

3. In the first photograph, Fig. 1, a porous substrate pad is placed in a chamber having no microstructure posts, but which does contain grooves perpendicular to the direction of liquid flow. Liquid is shown entering the right through a capillary in frame 4. The liquid enters the chamber uniformly and reaches the porous pad, which absorbs the liquid in frame 11. However, liquid also bypasses the porous pad as can be seen as dark red areas at the edges of the pad.

4. In the second photograph, Fig. 2, the chamber again contains a porous substrate pad and also an array of microstructure posts to assist distributing the liquid. Frame 2 shows that liquid was distributed uniformly over the entrance area. It proceeds uniformly through the porous pad as shown in Frame 7 and liquid does not bypass the porous pad.

5. When the chamber contains no substrate pad, bypassing of liquid occurs along the walls, as is shown in Figs. 3 and 4. In Fig. 3 the chamber is empty, containing neither a porous pad nor microstructure posts. In Fig. 4 the chamber contains microstructure posts, but no porous pad. In both of Figs. 3 and 4, liquid entering from the left passes along the chamber walls and, by filling the exit capillary creates an air pocket in the Chamber. Therefore, it can be concluded that <u>both</u> the substrates pad and the microfluidic posts must be present if liquid is to be distributed uniformly and air is to be expelled.

6. Fig. 5 illustrates the use of microstructure posts positioned ahead of a porous substrate pad. Liquid is uniformly distributed to the porous pad, without bypassing of the liquid.

7. I hereby declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Apr 10, 2007
Date

Michael J. Pugia, Ph.D.

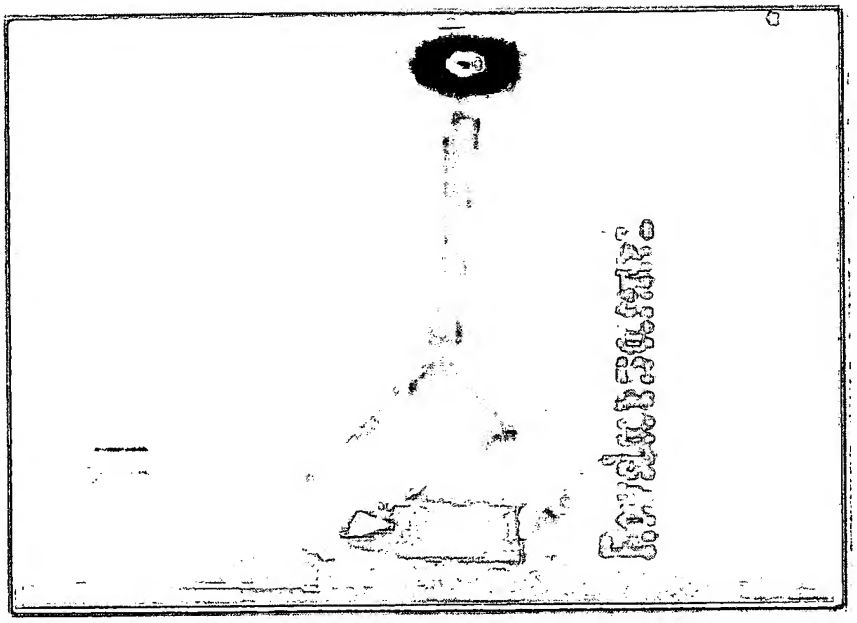
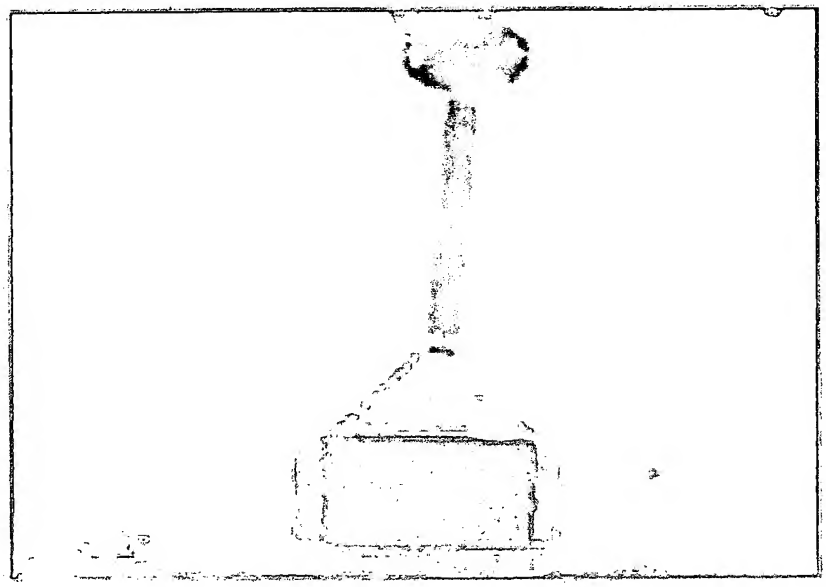


Fig. 1



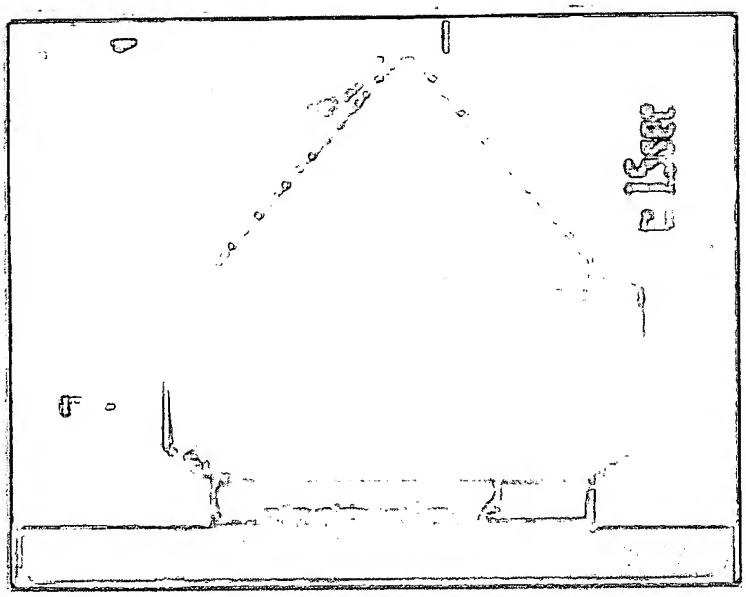


Fig. 2

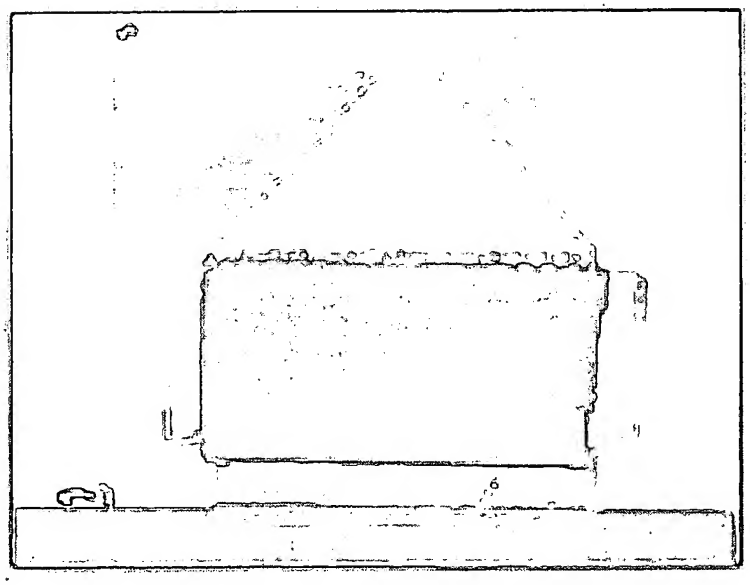


Fig. 3

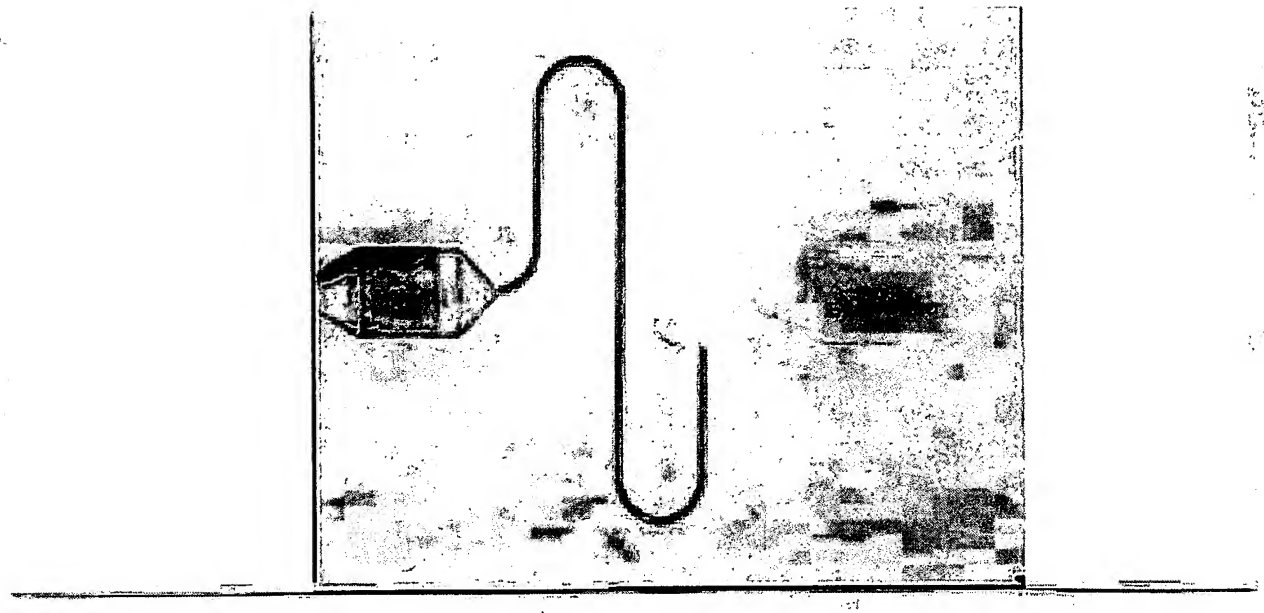


Fig. 4

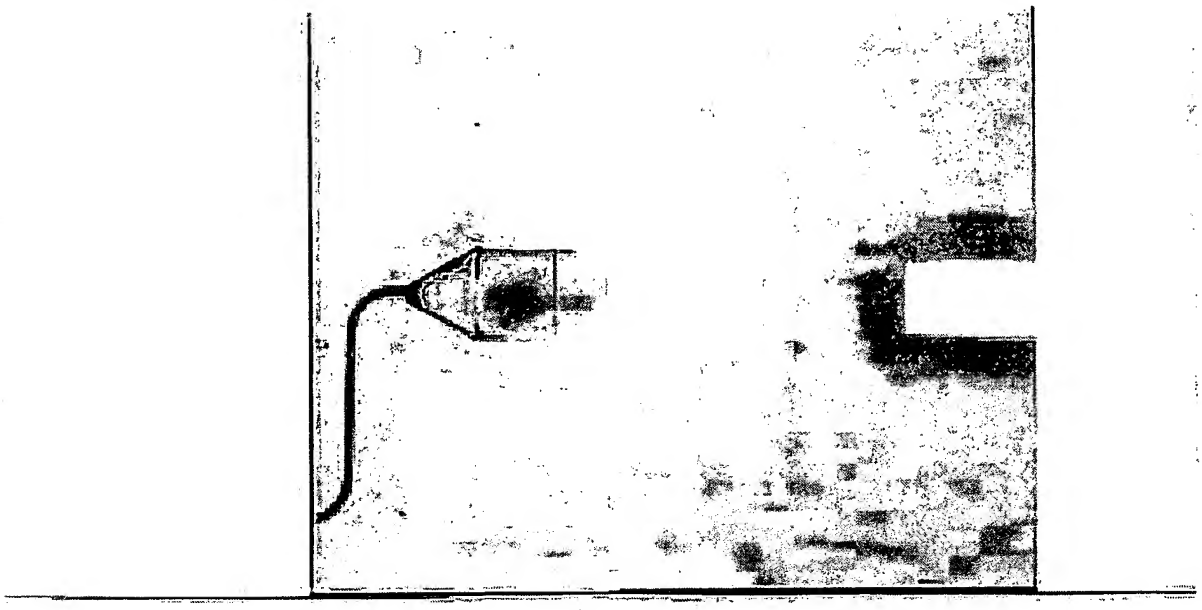


Fig. 5